(12) **INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)**

(19) World Intellectual Property Organization [WIPO] [Bar Code]
International Bureau

(43) International Publication Date
July 8, 2004 (07/08/2004)

PCT

(10) International Publication Number
WO 2004/057281 A1

(51) International Patent Classification[7]: **G01F 23/26**

(21) International Application No.: PCT/EP2003/011449

(22) International Filing Date: October 16, 2003 (10/16/2003)

(25) Language in which the international application was originally filed: German

(26) Language in which the international application is published: German

(30) Priority Data:
102 61 767.8 December 19, 2002 (12/19/2002) DE

(71) Applicant *(for all designated states except the US)*: **HYDAC ELECTRONIC GMBH** [DE/DE]; Hauptstrasse 27, 66128 Saarbrücken (DE).

(72) Inventor; and

(75) Inventor/Applicant *(US only)*: **QU, Wenmin** [CN/DE]; Kaiserstrasse 110, 66386 St. Ingbert (DE). **GAMEL, Frédéric, Julien** [FR/FR]; rue Principale, F-57800 Betting-les-Saint-Avold (FR). **MANNE-BACH, Horst** [DE/DE]; Krimmgasse 8, 56294 Münstermaifeld (DE). **JIRGAL, Mathias, Leo** [DE/DE]; Alleestrasse 64, 66126 Saarbrücken (DE).

(74) Agent: **BARTELS AND PARTNER;** Lange Strasse 51, 70174 Stuttgart (DE).

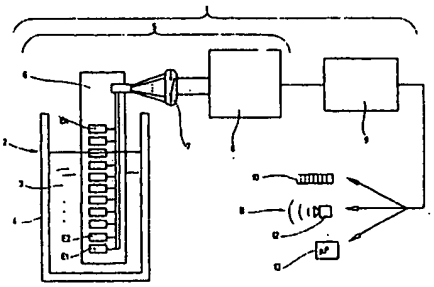
(81) Designated States *(national)*: US.

(84) Designated States *(regional)*: European Patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR).

Published:
— *With International Search Report.*

Reference is made for an explanation of the two-letter codes and the other abbreviations to the Guidance Notes on Codes and Abbreviations in the front section of each regular PCT Gazette edition.

(54) Title: DEVICE AND METHOD FOR MEASURING CAPACITANCE AND DEVICE FOR DETERMINING THE LEVEL OF A LIQUID USING ONE SUCH DEVICE



(57) **Abstract:** The invention relates to a device (5) for measuring capacity, said device comprising an electrode arrangement consisting of a plurality of electrodes (E1, E2, ..., En) which are adjacently and/or successively arranged on a carrier (6), an intrinsic measuring device (8) for measuring the capacitance between a first electrode (E2), in the form of a measuring electrode, and a second electrode (E1), in the form of a counter-electrode, and a controllable switching device (7) for connecting the electrodes (E1, E2, ..., En), in the form of first and second electrodes (E2, E1), to the measuring device (8) in such a way that they can be switched in a pre-determinable manner. The inventive device is characterised in that each electrode (E1, E2, ..., En) of the electrode arrangement can be switched in a controlled, alternate manner by the switching device (7), in the form of a measuring electrode, and respectively at least one of the other electrodes (E1, E2, ..., En), in the form of a counter-electrode, can be switched to a pre-determinable reference potential. The invention also relates to an associated method, and a device (1) for determining the level (2) of a liquid (3) using one such device (5).

[Fortsetzung auf der nächsten Seite]

WO 2004/057281 A1